Once the use of filtering or no-filtering is decided (step 110), the 3D drawing engine is used to provide filtering (step 111), or the 3D drawing engine is used to provide scaling without filtering. Alternatively to using the 3D drawing engine 60, the backend scaler of CRTC2 12 can also be used to scale the zoomed window (see Figure 8). The CRTC2 12 is set to read from the location where the zoom window is located and the scaler is programmed to scale using the determined scale factor. The zoom window can be fetched directly from the main display buffer or the zoom window can be copied (blit) into another region in memory and the CRTC2 (12) can read from there (see Figure 8). In this case, the control of filtering and non-filtering, will depend on the filtering capabilities of the specific scaling unit used.

IN THE CLAIMS
Please amend the claims as follows:

1. (twice amended) A method of controlling a display controller system to provide a display surface zoom, said display controller system having a frame buffer memory and output to at least one zoom display device, the method comprising the steps of:

receiving user input defining coordinates of a fixed position frame portion within said frame buffer memory;

determining a·resolution of said at least one zoom display device and adjusting an aspect ratio of said portion defined by said user input to correspond to said resolution;

programming said display controller system to implement said display surface zoom to provide a full screen view of said portion on said at least one zoom display device;

in said display controller system, scaling said portion of said frame buffer memory;

in said display controller system, converting said scaled portion of said frame buffer memory into a display signal; and

outputting said display signal from said display controller system to said at least one zoom display device.

2. (unamended) The method as claimed in claim 1, wherein said step of converting includes incorporating a representation of a cursor in said display signal, said cursor having a position defined by a cursor position memory used for said frame buffer memory.

3. (unamended) The method as claimed in claim 1, further comprising a step of filtering said portion to provide for an image not illustrating coarse pixels.

4. (unamended) The method as claimed in claim 3, wherein said user input further defines a user's choice of filtering or non-filtering.

5. (unamended) The method as claimed in claim 1, wherein said user input further includes a cursor control device input used to control a cursor, and said portion is caused to be dragged or moved over said frame buffer memory by movement of said cursor.

6. (unamended) The method as claimed in claim 1, wherein said scaling comprises using a drawing engine associated with said display controller system to scale said portion into a buffer.

7. (unamended) The method as claimed in claim 1, wherein said scaling comprises using a backend scaler associated with said display controller system to scale said portion.

8. (unamended) The method as claimed in claim 7, wherein said scaling further comprises using a backend scaler associated with said display controller system to scale a hardware cursor associated with said portion.

9. (unamended) The method as claimed in claim 6, wherein said scaling further comprises using a drawing engine associated with said display controller system to scale a hardware cursor associated with said portion into a separate hardware cursor buffer.

10. (unamended) The method as claimed in claim 6, wherein said scaling further comprises using a drawing engine associated with said display controller system to scale a hardware cursor associated with said portion and overlay it onto said buffer.

11. (unamended) The method as claimed in claim 6, wherein said image data is stored alternatingly in one of a plurality of buffers, said step of converting comprising reading said image data alternatingly from one of said buffers so as to reduce image flicker and ensure complete buffer update before displaying.

12. (amended) The method as claimed in claim 1, wherein said display controller system comprises a single display output, and said user input causes said single display to switch between displaying said portion and displaying essentially all of said frame buffer memory, whereby said zoom is provided independently of an application program.

13. (amended) The method as claimed in claim 1, wherein said display controller system comprises at least two displays outputs, a first one of which displaying essentially all of said frame buffer memory, and a second one of which displaying said scaled portion in a full screen view.

14. (unamended) The method as claimed in claim 13, wherein said second display has a different image resolution than an image resolution of said first display, said converting comprising automatically adjusting an image resolution of said signal representing said portion to match said image resolution of said second display.

15. (unamended) The method as claimed in claim 1, wherein said step of receiving user input comprises:

receiving input defining at least two portions of said main display surface to be selectively displayed on one of said at least one zoom display device; and

receiving input selecting one of said at least two portions of said main display surface to be displayed on said one of said at least one zoom display device.

16. (amended) The method as claimed in claim 15, wherein said user input causes a toggling between said portions.

17. (amended) The method as claimed in claim 15, wherein said step of receiving user input further comprises:

associating said input defining said at least one said portion with one of a plurality of application programs,

wherein said step of receiving input selecting one of said at least two portions comprises determining which one of a plurality of application programs is currently active and providing output to said frame buffer memory in order to select from at least one of said portions of said main display surface associated with said currently active one of said plurality of said application programs.

18. (amended) The method as claimed in claim 17, wherein a change in application program currently active and outputting to said main display surface is detected and caused to automatically change selection of said at least one of said at least two portions.

19. (unamended) The method as claimed in claim 1, wherein said step of receiving user input comprises:

receiving input defining a plurality of portions of said main display surface to be selectively displayed on different zoom display devices; and

receiving input selecting one of said portions of said main display surface to be displayed on each one of said zoom display devices.

20. (unamended) The method as claimed in claim 19, wherein said user input causes a toggling between said portions.

21. (twice amended) A method of controlling a display controller system to provide a display surface zoom, said display controller system having a frame buffer memory and output to at least one zoom display device, the method comprising the steps of:

receiving user input defining coordinates of a fractional portion of said frame buffer memory to be scaled and displayed, said fractional portion being a non-integer fraction of said frame buffer memory;

determining a resolution of said at least one zoom display device and adjusting an aspect ratio of said portion defined by said user input to correspond to said resolution;

programming said display controller system to implement said display surface zoom to provide full screen view of said portion on said at least one zoom display device;

scaling said portion of said frame buffer memory;

converting said scaled portion of said frame buffer memory into a display signal; and

outputting said display signal to said at least one zoom display device.

22. (unamended) The method as claimed in claim 21, wherein said step of converting includes incorporating a representation of a cursor in said display signal, said cursor

having a position defined by a cursor position memory used for said frame buffer memory.

23. (unamended) The method as claimed in claim 21, further comprising filtering said portion to provide for an image not illustrating coarse pixels.

24. (unamended) The method as claimed in claim 23, wherein said user input further defines a user's choice of filtering or non-filtering.

25. (unamended) The method as claimed in claim 21, wherein said user input further includes a pointing device output used to control a cursor, and said portion is caused to be dragged or moved over said frame buffer memory by movement of said cursor.

26. (unamended) The method as claimed in claim 21, wherein said scaling comprises using a drawing engine associated with said display controller system to generate image data corresponding to said portion.

27. (unamended) The method as claimed in claim 21, further comprising a step of accepting user input adjusting said non-integer fraction to be increased and to be decreased, wherein said user input can cause a zoom magnification to vary upwards and downwards.

Please add new claims 28 to 33 as follows. The Commission is authorized to charge deposit account 19-5113 the amount of $108.00 for 6 more dependent claims in excess of 20, along with any additional fees required to enter this amendment.

28. (new) The method as claimed in claim 1, wherein the step of determining the resolution of the at least one display device comprises automatically a standard resolution of the at least one display device being closest to a resolution of said

portion, said step of programming including specifying to said display controller system said closest standard resolution.

29. (new) The method as claimed in claim 28, wherein said display controller system has full-screen output to a main display device and to said at least one zoom display device.

30. (new) The method as claimed in claim 28, wherein said at least one zoom display device comprises a CRT display.

31. (new) The method as claimed in claim 21, wherein the step of determining the resolution of the at least one display device comprises automatically choosing a standard resolution of said at least one display device being closest to a resolution of said portion, said step of programming including specifying to said display controller system said closest standard resolution.

32. (new) The method as claimed in claim 31, wherein said display controller system has full-screen output to a main display device and to said at least one zoom display device.

33. (new) The method as claimed in claim 31, wherein said at least one zoom display device comprises a CRT display.

IN THE ABSTRACT

Please amend the abstract as follows:

A display controller system is controlled to provide a display surface zoom using hardware scaling from user input at the operating system, application program or hardware level. User input defining coordinates of a frame portion within a frame buffer memory is obtained, and a resolution of the zoom display device is